

REMARKS

This Response is submitted in response to the outstanding Office Action wherein the Examiner rejected claims 1-9, 11, 15, 16, 19 and 20. Claims 10, 12-14 and 17-18 have been cancelled.

The Examiner rejected Claims 1, 2, 4-6, 8-9, 11, 15, 19 and 20 under 35 U.S.C. §103(a), as allegedly being unpatentable over U.S. Patent No. 4,452,374 to Hitchcock et al. (“Hitchcock et al.”) in view of U.S. Patent No. 4,044,187 to Kremkau (“Kremkau”). Claims 1-9, 16, 19 and 20 stand rejected under 35 U.S.C. §103(a), as allegedly being unpatentable over U.S. Patent No. 5,582,319 to Heyes et al. (“Heyes et al.”) in view of Kremkau. Applicants respectfully traverse because (1) the prior art references fail to teach or suggest all of the claimed limitations and (2) the prior art references taken as a whole teach away from Applicants’ invention.

The §103 rejections of Claims 1, 2, 4-6, 8-15 and 19 traversed because the prior art references do not teach or suggest all of the claimed limitations. Applicants submit that the applied references fail to render Applicants’ claimed inventions unpatentable, since none of the applied prior art, either alone or in combination, teach or suggest a process for making a metal-polymer composite suitable for shaping into food and beverage container end panels and container bodies, comprising embrittling said polymer in said coating, thereby to improve resistance of the coating to feathering and angel hair formation.

Referring to Page 3 of the present Office Action, the Examiner admits that “Hitchcock et al. does not teach scissioning polymer chains by irradiating the coating with electron beam to improve resistance to ‘feathering’ and ‘angel hair’ formation where the irradiating is carried out as a sufficient energy and for a sufficient time to embrittle the polymer in the coating.”

Referring to Pages 3 and 4 of the present Office Action, to meet the limitation of scissioning polymer chains, the Examiner relies on the disclosure of Kremkau for allegedly teaching that increase bond strength, seal strength and dimensional stability of film laminates results from irradiating a polyolefin film using an electron beam. The Examiner further alleges that Column 1, lines 6-9, of the Kremkau disclosure, teaches a method that includes the steps of irradiating a polyolefin film with about 2-20 megarads to form a laminate, and the irradiating of the entire laminate using an additional dosage between 2 and 20 megarads. The Examiner further alleges that irradiating the crosslinked layer with a second radiation of 2-20 megarads will inherently result in scissioning of polymer chains. However, Applicants respectfully disagree that Kremkau discloses or teaches irradiating a fully or near fully polymerized (crosslinked) coating with an additional dosage between 2-20 megarads.

Kremkau teaches providing a substrate of cross-linked polymeric material, adding at least one more unirradiated cross-linkable material and then irradiating the laminate. (Col. 1, Line 61- Col. 2, Line 5 and Col. 2, Line 62- Col. 3, Line 13) (For the sake of brevity, some steps have been omitted). Hence, the top layer of the

laminate, the one receiving the vast majority, if not all, of the radiation, depending on the dose, is the unirradiated layer. The bottom layer, which is irradiated first, and hence is at least partially cross-linked, does not receive the second 2-20 megarad dose of radiation because it is shielded by at least one layer, which has not been previously irradiated. Kremkau does not disclose how much of the second dose of radiation the previously cross-linked layer receives, if any. In any case, Kremkau does not teach exposing the cross-linked layer with sufficient radiation to embrittle the layer. Hence, Kremkau does not teach irradiating a fully polymerized or nearly fully polymerized polymer or embrittling a polymer as claimed by Applicants but teaches irradiating an unirradiated layer after it is applied to cross-linked polymeric material.

Further proof that Kremkau does not teach irradiating a fully polymerized or nearly fully polymerized polymer or the embrittling of the polymer is that the material created by the method taught in Kremkau is a flexible material for use in bags and casings and “[f]illed bags and casing, according to [Kremkau’s] invention show superior resistance to delamination and exhibit good dimensional stability under such abusive conditions.” (Col 3, Line 68, Col 4, Line 11). Since a bag is a flexible container, brittle is not a desired characteristic and is mutually exclusive with the characteristic of “good dimensional stability” in the context of a material used to make bags. It is clear that Kremkau teaches against embrittling a polymer.

In sum, Kremkau does not render Applicants’ invention unpatentable in combination with the other references cited by Examiner because (1) Kremkau does not

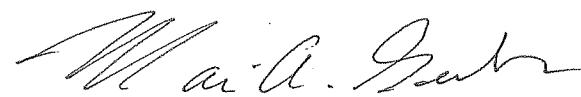
teach irradiating a fully polymerized or nearly fully polymerized coating, the scissioning of polymer chains, or embrittlement of polymers as alleged by the Examiner; and (2) actually teaches against the scissioning and embrittlement of the polymers.

Claims 1-9 and 16 and 19-20 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Heyes et al. in view of Kremkau. Referring to Page 6 of the present Office Action, the Examiner admits that Heyes et al. fails to teach or suggest “using electron beam irradiation to scission the polymer chains to improve resistance to feathering and angel hair formation.” Kremkau fails to fulfill the deficiencies in Heyes et al. for the same reasons Kremkau fails to fulfill the deficiencies in Hitchcock et al. The above comments regarding Kremkau are incorporate herein by reference. Therefore, since the combination of Heyes et al. and Kremkau fail to teach or suggest each and every limitation recited in Claims 1, 16, 19 and 20 and Kremkau teaches against sufficient embrittlement, Applicants submit that the present §103 rejection has been obviated and respectfully request withdrawal thereof.

Accordingly, the Examiner is respectfully requested to reconsider the application, withdraw the rejections and issue an immediate a favorable action thereon. If upon review of the application, the Examiner is unable issue an immediate Notice of Allowance, the Examiner is respectfully requested to telephone the undersigned attorney with a view towards resolving any outstanding issues.

An early and favorable action is earnestly solicited.

Respectfully submitted,



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